

Attorney Docket #10011474-1

Remarks/Arguments

Claims 1-15 and 17-18 remain in this application. Claims 1, 11 and 15 have been amended. Claim 16 has been canceled.

A. Examiner's Remarks

The drawings were objected to because Figure 3A shows two different views, when they should be labeled with two different figure numbers.

The disclosure was objected to because of informalities.

Claim 12 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-5, 11 and 13 were rejected under 35 U.S.C. § 102(e) as being anticipated by USPN 6,078,440 to Ueyama ("Ueyama").

Claims 15 and 17 were rejected under 35 U.S.C. § 102 (b) as being anticipated by USPN 5,946,127 to Nagata ("Nagata").

Claim 12 was rejected under 35 U.S.C. § 103 (a) as being unpatentable over Ueyama in view of USPN 4,552,024 to Baker et al ("Baker").

B. Drawings

The drawings were objected to because Figure 3A shows two different views, when they should be labeled with two different figure numbers.

Figure 3A has been amended such that one view is labeled Figure 3A and the other view is labeled 3B. Figure 3B has been renamed to Figure 3C.

No new matter has been introduced with any of these amendments. A new set of formal drawings will be submitted upon notice of allowance of this application. The objection to the drawings is believed to be overcome.

C. Disclosure Informalities

The disclosure was objected to because of informalities. On page 9, paragraph 33 in the specification, "spring 309" should be changed to -- spring 409 -- for clarification.

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The Applicant has made the suggested amendments, and thanks the Examiner for catching these informalities.

No new matter has been introduced with this amendment. The objection to the disclosure is believed to be overcome.

D. Claim rejections - 35 U.S.C. §112, second paragraph

Claim 12 was rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 12 recited the limitation "the alignment tool", but there was insufficient antecedent basis for this limitation in the claim.

Claim 11 has been amended to recite "an alignment tool" to provide antecedent basis for claim 12. Support for this amendment can be found on page 6, paragraph 22.

No new matter has been introduced with this amendment. The rejection to claims 12 are believed to be overcome.

E. Claim rejections - 35 U.S.C. §102

Ueyama does not teach secured curved surfaces

Claims 1-5, 11 and 13 were rejected under 35 U.S.C. §102(e) as being anticipated by Ueyama.

Ueyama teaches a plurality of balls 26 that are provided between the convex spherical surface 15 of the image pickup unit 10 and the concave spherical surface 28 of space 24. The balls 26 function as ball bearings that facilitate the rotation and movement of the image pickup unit 10. The balls 26 rotate freely when the image pickup unit 10 is moved. (Column 4, lines 29-41).

In distinct contrast to the cited reference, the present invention teaches a sphere 105 that is constrained by two sets of secured curved surfaces. For example support balls 207 are firmly secured with epoxy, welding, screws, etc. and are held immobile in the depressions 213 (page 8, paragraph 27). Likewise, upper balls 209 are held secure by the lid 211, which is screwed onto the housing and applies a downward force on each upper ball 209 (page 8, paragraph 27). When the sphere 105 is rotated, the balls 207, 209 do not roll freely with the sphere, unlike the ball bearings taught by Ueyama. Instead, the sphere 105 must overcome the surface friction of the stationary balls to be rotated (page 7, paragraph

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25). This patentable distinction is recited in claim 1 as amended: "... the first and second set of curved surfaces so constructed, secured, and arranged such that the sphere has freedom for prescribed movement when required, but is otherwise securely held stationary" (underlining added).

Independent claim 1 is believed to be allowable, based on this distinction. Dependent claims 2-5, 11, and 13 are also believed to be allowable, based on the allowability of claim 1. The rejections to claims 1-5, 11 and 13 are believed to be overcome.

Nagata does not teach magnets attached to the housing

Claims 15 and 17 were rejected under 35 U.S.C. § 102 (b) as being anticipated by Nagata.

Nagata teaches an image pick-up apparatus such as a robotic eye, wherein a sphere 15 containing an image sensor is used to track a moving object. Nagata teaches a first magnet attached to the sphere, and a second magnet attached to a movable block 47 that controls the movement of the sphere, using the magnetic attraction between the first and second magnet. The sphere and movable block are enclosed within housings 20 and 30. Nagata does not teach nor suggest that the magnets are attached to the housing.

In distinct contrast to Nagata, the present invention teaches that the magnets are attached to the housing. In fact, if the magnets were attached to the housing in Nagata, it would frustrate the purpose of Nagata, which is to move the sphere using magnetic attraction. Claim 15 has been amended to reflect this distinction: "... a plurality of magnets attached to the housing and magnetically attracted to the sphere, the magnets so constructed and arranged in the housing such that the sphere has freedom for prescribed movement when required by overcoming the magnetic attraction between the sphere and the magnets, but is otherwise held stationary by the magnetic attraction."

Independent claim 15 is believed to be allowable, based on this unique feature. Dependent claims 17-18 are also believed to be allowable, based on the allowability of claim 15.

No new matter has been introduced with this amendment. The rejections to claims 15, 17, and 18 are believed to be overcome.

F. Claim rejections - 35 U.S.C. §103(a)

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Claim 12 was rejected under 35 U.S.C. § 103 (a) as being unpatentable over Ueyama in view of USPN 4,552,024 to Baker et al ("Baker").

Independent claim 1 was argued to be allowable in section E above. Dependent claim 12 is also believed to be allowable, based on the allowability of claim 1.

No new matter has been introduced with this amendment. The §103 rejection to claim 12 is believed to be overcome.

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Conclusion

If there are any further questions or if more discussion is required, the Examiner is invited to call the Applicants' agent at the telephone number given below. In view of the above, the claims presently in the application are believed to be distinct over the cited references and in condition for allowance. Accordingly, it is respectfully requested that such allowance be granted at an early date.

Respectfully submitted,

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